

REMARKS

Claims 1-22 are pending in this application. By this Amendment, claims 1-5 and 13-22 are amended. Claim 6 is canceled without prejudice to or disclaimer of the subject matter therein. No new matter is added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The courtesies extended to Applicant's representative by Examiner Hung at the interview held January 9, 2007, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

I. Formal Matters

The Office Action objects to the specification because of various informalities. On page 15 of the specification, "Gr" in lines 9 and 12 is amended to recite "Grr"; "grass" in line 11 is amended to recite "Grs"; "MS", "Gr" and "Gr" in line 15 is amended to recite "MSB," "Grr" and "Grr", respectively; and "[SM]" in line 21 is amended to recite "[sz]." The Office Action objects to numeral 155 on page 17. Page 17, line 24, is amended to recite numeral 150.

The Office Action objects to page 18, third paragraph, the last two lines of the page, asserting that it is not clear how the sixteen possible edge locations are indicated. During the January 9, 2007 interview, Applicants' representative asserted to the Examiner that the sixteen different combinations are not necessarily identified by the mark edge module. The mark edge module only assigns one of four different values to the window of interest, as indicated at the bottom of page 18 to the top of page 19 of the specification. The Examiner indicated that the explanation was reasonable.

On page 23 second paragraph line 1, "PDL MRC segmentation module 25" is amended to recite "PDL segmentation module 26." The Office Action asserts that it is not clear what the values of Grr as output from PDL segmentation module are. However, the output of the PDL segmentation module is described on page 23, lines 26-30. The PDL segmentation module is different than the scan processing described earlier in the specification. The scan segmentation process is based on a dependent maximum/minimum analysis followed by dynamic thresholding. However, for the PDL data, segmentation is based on the classification 158 of the content of the pixels in a 3x3 window centered on the current pixel of interest. Accordingly, Applicants respectfully request that the objections to the specification be withdrawn.

In claims 2 and 14, the term "signaled" is amended to recite "signal." In claims 3 and 15, the term "wherein" is amended to recite "then." Accordingly, Applicants respectfully request that the objections to claims 2 and 14 be withdrawn.

The Office Action rejects claims 1-22 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Specifically, the Office Action objects to the terms, "strong", "weak" and "direction" in claims 1 and 13. Claims 1 and 13 are amended to recite "a multi-bit monochrome signal which represents weak, strong and at least one of at background and foreground into a selective signal based on monochrome signal, wherein the monochrome signal is multi-bit raw gray selector output signal," so as to obviate the rejection.

The Office Action rejects claims 15-17 for failing to have sufficient antecedent bases for the feature "signed number." Claims 15 and 17 are amended to depend from claim 14, so as to obviate this rejection. Accordingly, Applicants respectfully request that the rejection be withdrawn.

II. Claims Define Patentable Subject Matter

Applicants graciously acknowledge that the Office Action indicates that claims 3-22 contain allowable subject matter. Claims 13-17 are amended to obviate the §112 rejections of claims 13-22 so as to place claims 13-22 in condition for allowance, as discussed at the interview.

The Office Action rejects claim 1 under 35 U.S.C. §103(a) as being unpatentable over Lee (U.S. Patent No. 5,694,487) in view of Tan (U.S. Patent No. 6,707,952); and rejects claim 2 under 35 U.S.C. §103(a) as being unpatentable over Lee and Tan and further in view of Yuan (U.S. Patent No. 5,367,385). Applicants traverse these rejections.

The Office Action asserts that Lee discloses a method for improving mixed raster compression segmentation that has the steps of inputting a multi-bit monochrome signal and partitioning the selector signal into a plurality of uniform blocks. The Office Action admits that Lee does not expressly disclose performing two-dimensional filtering of each block and replacing the original weak selective signal with the filter result. The Office Action further asserts that Tan cures the deficiencies of Lee.

Lee and Tan, either individually or in combination, fail to disclose or suggest a method for improving mixed raster compression segmentation including at least the steps of (a) inputting a multi-bit monochrome signal which represents weak, strong and at least one of background and foreground into a selector signal, based on the monochrome signal; (b) partitioning the selector signal to a plurality of uniform blocks; (c) performing two-dimensionally multi-pass filtering of each block; and (d) replacing the original weak selector signal with filtered results, as recited in amended independent claim 1.

In contrast, Lee, in Fig. 1 and col. 4, lines 14-38, discloses a method and apparatus for determining feature points by defining directional gradient, normalizing the direction of

gradient, generating a first edge map having the gradient magnitude for each pixel, and generating a second edge map having the normalized direction of gradient for each pixel, dividing the edge map into blocks providing normalized directional gradients for each pixels, obtaining a variance for each pixel, and then determining a feature point for each of the blocks. However, Lee fails to disclose or suggest performing two-dimensional multi-pass filtering over each block, as recited in amended independent claim 1.

Tan, in Fig. 1 and col. 30-44 and col. 2, lines 61-65, merely discloses a ringing filter that is selected to have a main direction that corresponds to the identified base direction. This is done so that the filter's main direction is also inherently aligned with the direction of the dominant edge of the image. However, Tan also fails to disclose or suggest performing two-dimensional multi-pass filtering over each block, as recited in amended independent claim 1.

Therefore, Lee and Tan, either individually or in combination, fail to disclose or suggest a method for improving mixed raster compression segmentation including at least the steps of (a) inputting a multi-bit monochrome signal which represents weak, strong and at least one of background and foreground into a selector signal, based on the monochrome signal; (b) partitioning the selector signal to a plurality of uniform blocks; (c) performing two-dimensionally multi-pass filtering of each block; and (d) replacing the original weak selector signal with filtered results, as recited in amended independent claim 1.

In accordance with the above remarks, Applicants respectfully submit that claim 1 defines patentable subject matter. Claims 2-5 and 7-12 depend from claim 1, and therefore, also define patentable subject matter, as well as for the additional feature they recite. Thus, Applicants respectfully request that the Examiner withdrawal the §103(a) rejection.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-5 and 7-22 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Thomas J. Pardini
Registration No. 30,411

JAO:EXC/mab

Date: February 6, 2007

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
--